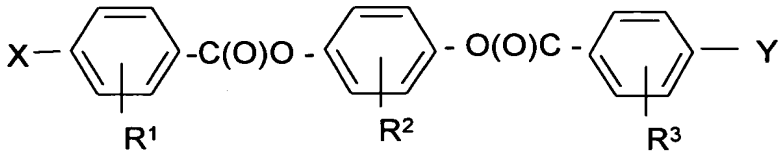
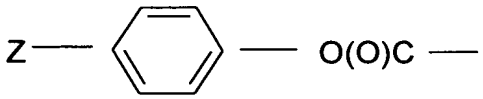
We Claim:

1. Mesogens having the following general formula:



wherein

X and Y independently are selected from the group consisting of amino groups, polymerizable groups, and groups having the following general structure:



wherein Z is selected from the group consisting of terminal functionalities and polymerizable groups; provided that when X is a polymerizable group, Y is an amino group;

R^2 is a bulky organic group having a bulk greater than R^1 and R^3 whereby, when both X and Y are polymerizable groups, said bulk is adapted to provide sufficient steric hindrance to achieve a nematic state at room temperature while suppressing crystallinity at room temperature, thereby providing effective rheology and workability at room temperature; and

R^1 and R^3 are selected from groups less bulky than R^2 adapted to maintain said nematic state.

2. The mesogens of claim 1 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

3. The mesogens of claim 1 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy

alkoxy groups comprising an alkyl moiety having from 2 to12 carbon atoms.

4. The mesogens of claim 3 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

5. The mesogens of claim 3 wherein said alkyl moiety consists essentially of a total of from 2 to 9 groups selected from the group consisting of said CH_2 groups and said substitute groups.

6. The mesogens of claim 3 wherein said alkyl moiety consists essentially of a total of from 2 to 6 groups selected from the group consisting of said CH_2 groups and said substitute groups.

7. The mesogens of claim 1 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

8. The mesogens of claims 1 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

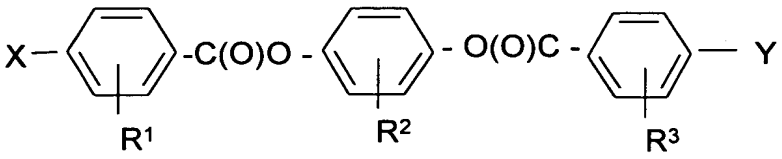
9. The mesogens of claims 3 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

10. The mesogens of claim 8 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

11. The mesogens of any of claim 1 wherein said terminal functionalities comprise spacer groups.

12. The mesogens of claim 1 wherein said terminal functionalities independently are selected from the group consisting of hydroxyl groups, amino groups, sulfhydryl groups.

13. Mesogens having the following general formula:



wherein

X and Y independently are selected from the group consisting of amino groups, polymerizable groups; provided that when X is a polymerizable group, Y is an amino group;

R^2 is a bulky organic group having a bulk greater than R^1 and R^3 whereby, when both X and Y are polymerizable groups, said bulk is adapted to provide sufficient steric hindrance to achieve a nematic state at room temperature while suppressing crystallinity at room temperature, thereby providing effective rheology and workability at room temperature; and

R^1 and R^3 are selected from groups less bulky than R^2 adapted to maintain said nematic state.

14. The mesogens of claim 13 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

15. The mesogens of claim 1 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy

alkoxy groups comprising an alkyl moiety having from 2 to12 carbon atoms.

16. The mesogens of claim 15 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

17. The mesogens of claim 16 wherein said alkyl moiety consists essentially of a total of from 2 to 9 groups selected from the group consisting of said CH_2 groups and said substitute groups.

18. The mesogens of claim 16 wherein said alkyl moiety consists essentially of a total of from 2 to 6 groups selected from the group consisting of said CH_2 groups and said substitute groups.

19. The mesogens of claim 13 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

20. The mesogens of claims 13 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

21. The mesogens of claims 15 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

22. The mesogens of claim 20 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

23. The mesogens of claim 21 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

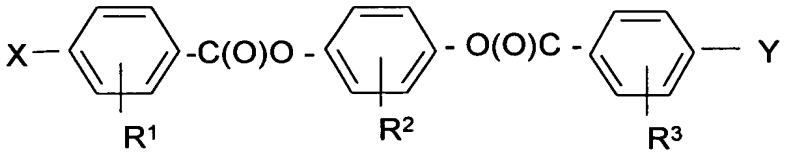
24. The mesogens of any of claim 13 wherein at least one of X or Y comprises a spacer group.

25. The mesogens of any of claim 23 wherein at least one of X or Y comprises a spacer group.

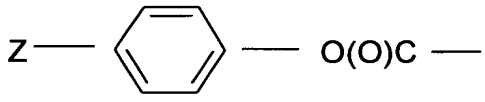
26. The mesogens of claim 13 wherein at least one of X or Y is selected from the group consisting of cinnamoyloxy groups.

27. The mesogens of claim 23 wherein at least one of X or Y is selected from the group consisting of cinnamoyloxy groups.

28. Mesogens having the following general formula:



wherein X and Y independently are selected from the group consisting of terminal functionalities and polymerizable groups, at least one of X and Y having the following general structure:



wherein Z is selected from the group consisting of terminal functionalities and polymerizable groups;

R^2 is a bulky organic group having a bulk greater than R^1 and R^3 whereby, when both X and Y are polymerizable groups, said bulk is adapted to provide sufficient steric hindrance to achieve a nematic state at room temperature while

suppressing crystallinity at room temperature, thereby providing effective rheology and workability at room temperature; and

R^1 and R^3 are selected from groups less bulky than R^2 adapted to maintain said nematic state.

29. The mesogens of claim 28 wherein said terminal functionalities independently are selected from the group consisting of hydroxyl groups, amino groups, sulfhydryl groups, and spacer groups.

30. The mesogens of claim 28 wherein said terminal functionalities comprise spacer groups.

31. The mesogens of claim 29 wherein said terminal functionalities comprise spacer groups.

32. The mesogens of claim 28 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

33. The mesogens of claim 29 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

34. The mesogens of claim 30 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

35. The mesogens of claim 31 wherein said polymerizable groups are selected from the group comprising a polymerizable unsaturated carbon-carbon bond.

36. The mesogens of claim 28 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy alkoxy groups comprising an alkyl moiety having from 2 to12 carbon atoms.

37. The mesogens of claim 29 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy

alkoxy groups comprising an alkyl moiety having from 2 to 12 carbon atoms.

38. The mesogens of claim 30 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy alkoxy groups comprising an alkyl moiety having from 2 to 12 carbon atoms.

39. The mesogens of claim 31 wherein said polymerizable groups are selected from the group consisting of acryloyloxy alkoxy groups and methacryloyloxy alkoxy groups comprising an alkyl moiety having from 2 to 12 carbon atoms.

40. The mesogens of claim 36 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

41. The mesogens of claim 37 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

42. The mesogens of claim 38 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

43. The mesogens of claim 39 wherein said alkyl moiety is selected from the group consisting of alkyl groups consisting of CH_2 groups and alkyl groups

wherein one or more of said CH_2 groups comprises a substitute group selected from the group consisting of oxygen, sulfur, and an ester group; provided that at least 2 carbon atoms separate said oxygen from said ester group.

44. The mesogens of claim 43 wherein said alkyl moiety consists essentially of a total of from 2 to 9 groups selected from the group consisting of said CH_2 groups and said substitute groups.

45. The mesogens of claim 43 wherein said alkyl moiety consists essentially of a total of from 2 to 6 groups selected from the group consisting of said CH_2 groups and said substitute groups.

46. The mesogens of claim 26 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

47. The mesogens of claim 35 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

48. The mesogens of claim 39 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

49. The mesogens of claim 43 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

50. The mesogens of claim 45 wherein R^2 is selected from the group consisting of alkyl groups having from about 1 to 6 carbon atoms and aryl groups.

51. The mesogens of claims 26 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

52. The mesogens of claims 35 wherein R^2 is selected from the group

consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

53. The mesogens of claims 39 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

54. The mesogens of claims 45 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

55. The mesogens of claims 43 wherein R^2 is selected from the group consisting of methyl groups, t-butyl groups, isopropyl groups, secondary butyl groups, and phenyl groups, preferably selected from the group consisting of a methyl group and a t-butyl group.

56. The mesogens of claim 46 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

57. The mesogens of claim 50 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

58. The mesogens of claim 51 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

59. The mesogens of claim 55 wherein R and R^3 are selected from the group consisting of hydrogen and a methyl group.

60. The mesogens of claim 26 wherein at least one of X or Y is selected

from the group consisting of cinnamoyloxy groups.

61. The mesogens of claim 55 wherein at least one of X or Y is selected from the group consisting of cinnamoyloxy groups.

62. The mesogens of claim 59 wherein at least one of X or Y is selected from the group consisting of cinnamoyloxy groups.